

Monday, September 22, 2014 1:47:19 PM

647.3901
B124701
REV. C

124701

Item ID: 647.3901

Revision ID:

Item Name: Lower Deflector Assembly, Low

Start Date: 9/22/2014 **Start Qty:** 2.00

Required Date: 9/22/2014 **Req'd Qty:** 2.00

Reference:

Accept

N900040100

Setup Start *NS1*

Stop *NS2*

Cust Item ID:

Customer:

~

~

Approvals: Process Plan: MLJ Date: 1409-22 Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start *NR1*

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr	
647.3900	C (ECN)	

110	Pick Kit	0.00		DAS
110				41
Packaging	Memo	0.00	<u>2</u>	<u>9-89</u>
Packaging				

120 0.00 DAS
120 41
9-89

Small Fab	Memo	0.00
Small Fab	Assemble as per dwg and apply loctite 598 on all faying surfaces per note.	

A/R RTV LOCTITE 598: 125637
exp. date: 5/15

* See attached email

130	QC5- Inspect part completeness to step on W/O	0.00	
130			(7)

QC	Memo	0.00
Quality Control		

JAN 19 2015

Work Order ID 124701

Monday, September 22, 2014 1:47:19 PM

124701

Page 2

Item ID: 647.3901 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Lower Deflector Assembly, Low
Start Date: 9/22/2014 Start Qty: 2.00 ***2*** Cust Item ID:
Required Date: 9/22/2014 Req'd Qty: 2.00 ***2*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140	Identify as per dwg & Stock Location: <u>CCX80</u>	0.00				<u>24</u>		<u>28</u> 9-89	JAN 22 2015
140									
Packaging	Memo	0.00							
Packaging	***IDENTIFY AS PER IAW MPP-120***								
150	QC21- Final Inspection - Work Order Release	0.00							
150						<u>MLJ</u>		<u>15-01-22</u>	
QC	Memo	0.00							
Quality Control									

(Handwritten signature) 15-1-22

Picklist Print

Monday, September 22, 2014 1:47:23 PM

Page 1

Work Order ID: 124701

124701

Parent Item: 647.3901

647.3901

Parent Item Name: Lower Deflector Assembly, Low

Start Date: 9/22/2014

Required Date: 9/22/2014

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP REV:A 13.09.03 NEW ISSUE DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
647.3912 *647.3912* Lower Deflector		Manufactured	No				Each	16.0000		2		DAS 41 9-89	15-1-16
					123482				**	2			
				<u>Location</u>				<u>Loc Qty</u>	<u>Loc Code</u>				
				MF3				16					
				123242				16					
647.3913 *647.3913* Breakaway Tip Medium		Manufactured	No				Each	11.0000		2		DAS 41 9-89	15-1-16
									**				
				<u>Location</u>				<u>Loc Qty</u>	<u>Loc Code</u>				
				CCK108				6					
				123518				6					
				CCK110				5					
				<u>m129702</u>				5		2			
MS20470AD6-12 *MS20470AD6-12* Rivet		Purchased	No				Each	338.0000		4		DAS 41 9-89	15-1-16
									**				
				<u>Location</u>				<u>Loc Qty</u>	<u>Loc Code</u>				
				ST310				338					
				m127304				338					
										4			

**See attached email*

APICAL
INDUSTRIES, INC.

ENGINEERING CHANGE NOTICE NO.

04556

SHEET 1 OF 1

DWG NO. 647.3900

REV: C

PREPARED BY

D. MEJIA

DATE: 06/10/2014

EFFECT ON DWG

☐ INC. ☒ UNINC.

DWG TITLE: DEFLECTORS

APPROVED BY:

ENGR

[Signature]

MFG

[Signature]

QC

[Signature]

EFF.

NEXT ORDER

TRANSACTION CODES (TC):

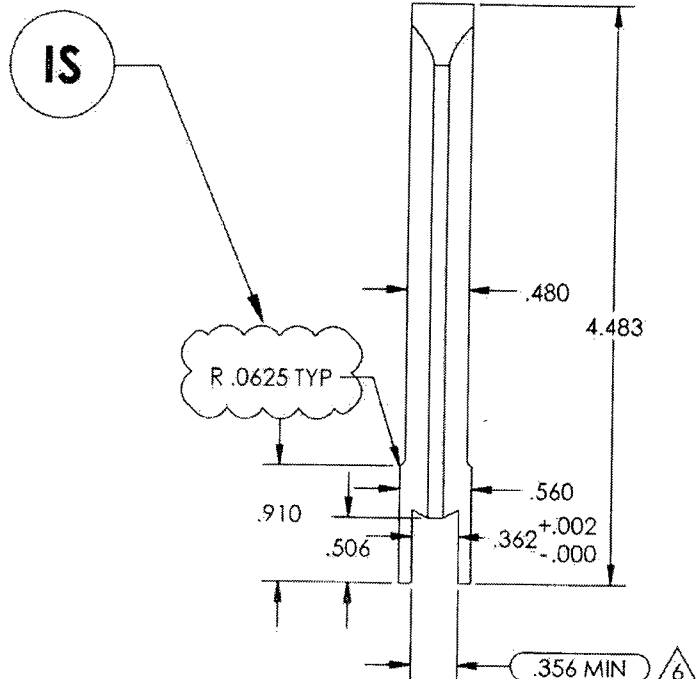
A-ADD
R-REVISE

C-CREATE
D-DELETE

REASON: DIMENSION CHANGE

ECR:

D-14-04

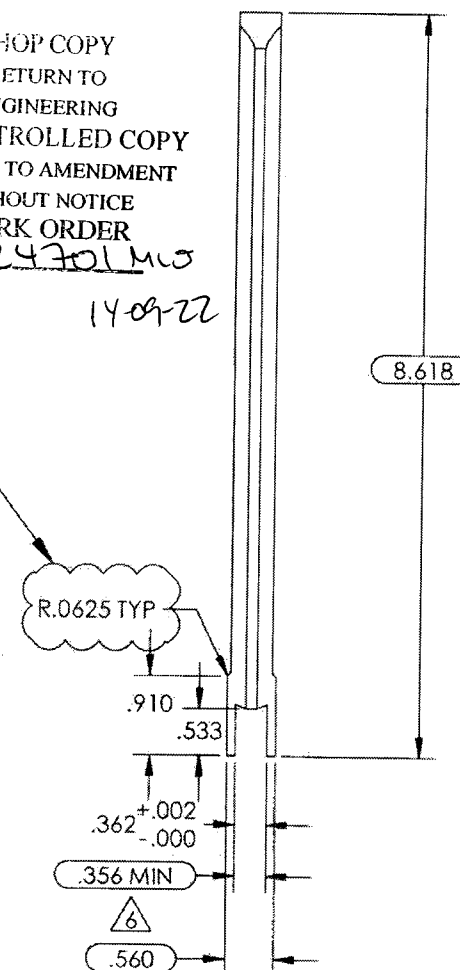


SHEET 5, ZONE C6 IS:

IS

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 124701 M10

14-09-22



SHEET 6, ZONE C6 IS:

DOCUMENTS EFFECTED:

☐ MDL ☐ INSTALL INSTRUCTIONS ☐ ICA ☐ FMS ☐ BOM

CHANGE CATEGORY

☐ MAJOR ☒ MINOR

DER REVIEW REQUIRED

☐ YES ☒ NO

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td style="width: 33%;"> Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ </td> <td style="width: 33%;"> Crosstube ☐ Small Fab ☐ Finishing ☐ Composite ☐ </td> <td style="width: 33%;"> Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ </td> <td style="width: 33%;"> Engineering ☐ Quality ☐ Other ☐ </td> </tr> </table>	Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐	Crosstube ☐ Small Fab ☐ Finishing ☐ Composite ☐	Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐	Engineering ☐ Quality ☐ Other ☐
Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐	Crosstube ☐ Small Fab ☐ Finishing ☐ Composite ☐	Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐	Engineering ☐ Quality ☐ Other ☐			

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
--	--	---	--

NOTES:

2 FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III,
CLASS 2, COLOR BLACK;

3. DEBURR AND BREAK ALL SHARP EDGES.

4. IDENTIFY IAW MPP-120.

5 APPLY F/N 3 AS REQUIRED TO ALL FAYING SURFACES OF F/N 6, 7 & 8 UPON ASSY.

▲ MAXIMUM OR MINIMUM DIMENSION AFTER FINISH.

7. .0625 HOLE MAY BE ADDED FOR FINISHING PURPOSES

△ FINISH: PRETREAT PR-148 ADHESION PROMOTER,
PRIME IAW MIL-P-23377J, TYPE I, CLASS N;
1-2 MIL MAX. APPLY FINISH AFTER ASSEMBLY.

9 FINISH: PRETREAT PR-148 ADHESION PROMOTER,
PRIME IAW MIL-P-23377J, TYPE I, CLASS N;
1-2 MIL MAX.

REVIEWS			
REV	DESCRIPTION	DATE	APPROVED
	LAST PROTOTYPE RELEASE - PM1		N/C
N/C	INITIAL RELEASE:	09/10/09	P. BRAVO
A	INCORPORATED ECH 02064 03509 & 03515	07/24/12	P. BRAVO
B	INCORPORATED ECH 04225	06/02/13	P. BRAVO
C	INCORPORATED ECH 04036, 04085 & 04130	11/18/13	P. BRAVO

UNINCORPORATED ECN(S)

04556

6				12	601.3072	RIVET	C/R32 13-6-9		
2				11	647.3917	DOUBLER			
1				10	647.3916	DEFLECTOR, UPPER HALF	△	△	
1				9	647.3915	DEFLECTOR, LOWER HALF	△	△	
1	1			8	647.3914	BREAKAWAY TIP LONG		△△	
		1		7	647.3913	BREAKAWAY TIP MEDIUM	△	△△	
	1	1		6	647.3912	LOWER DEFLECTOR	△	△△	
				5	647.3911	212 UPPER DEFLECTOR	△	△△	
				4	647.3910	412 UPPER DEFLECTOR		△△	
A/R	A/R	A/R		3	601.2045	RTV, LOCITE 598			△
	3	2		2	601.3074	RIVET	MSSDASDAD 6-12		
				1		DELETED			
X					647.3903	DEFLECTOR ASSY			△
	X				647.3902	LOWER DEFLECTOR ASSY HIGH			
		X			647.3901	LOWER DEFLECTOR ASSY LOW			
.3903	.3902	.3901	FIND #	PART #	DESCRIPTION	MAT'L	SPEC		
QTY				PARTS LIST					
NEXT ASSY IS)				APICAL INDUSTRIES					
647.3800				2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300					
				DEFLECTORS					
				SCALE: NOMP					
				DWG. NO. 647.3900					
				REV. C					
				CHECKED BY _____ DATE _____					

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Crosstube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐
--	--	---

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
--	--	---	--

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

.125 X 45.0° TYP

SECTION B-B

Ø.177 THRU 3PL

.266 X 17.9°

DETAIL A

DETAIL C

647.3911

R.279 R3.406

15.896
15.304

15.046

6.446

.312

18.502

18.127

35.8°

10.702

8.599

6.253

1.700

.777

0

Ø.189

40.2°

6

.346 MAX

.340^{+.000}
-.002

.700

.035 X 45.0° TYP

15.896

.375

ORIGINAL DATE: 01/10/00
DESIGNED BY: J. B. BROWN
CHECKED BY: J. B. BROWN
DRAWING APPROVAL: J. B. BROWN
IF BRANCH: J. B. BROWN
CONTRACT NO.:

APICAL INDUSTRIES
2608 TEMPLE HEIGHTS DR.
OCEANSIDE, CA. 92056-3512 (760)724-5300

DEFLECTORS

SCALE: NONE SHEET 2 OF 12

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Crosstube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐
--	--	---

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

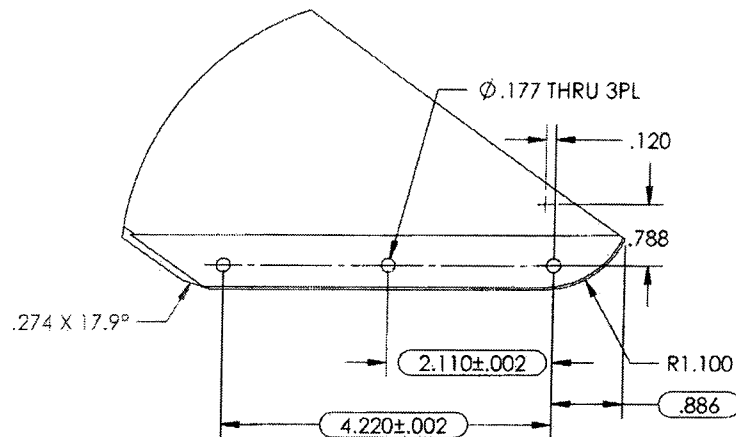
FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
--	--	---	--

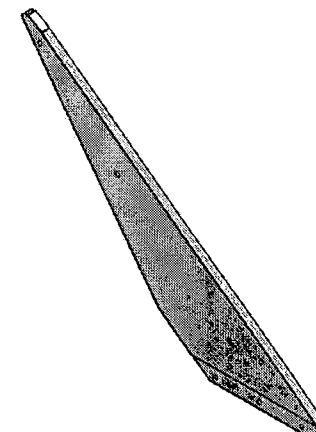
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

.125 X 44.9°

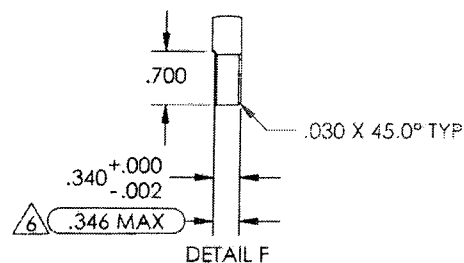
SECTION E-E



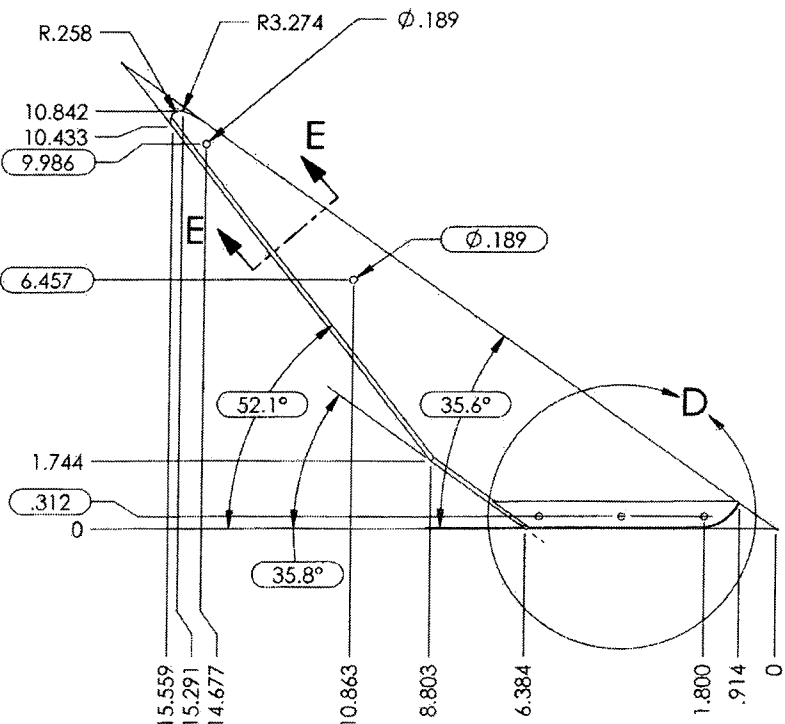
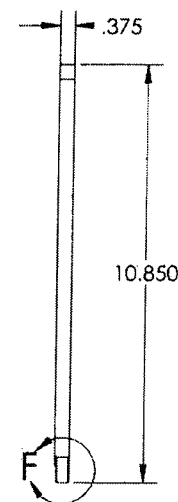
DETAIL D



647.3910



DETAIL F



ORIGINAL DATE: 01/19/89		APICAL INDUSTRIES	
DRAWN BY: J. B. B.	CHECKED: J. B. B.	2608 TEMPLE HEIGHTS DR.	
DISCRIPTION: DEFLECTOR	DRAWING APPROVAL: J. B. B.	OCEANSIDE, CA. 92056-3512 (760)724-5300	
CORRECTIONS:		DEFLECTORS	
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES. TOLERANCES ARE: 2 PLACE DECIMALS AND 3 PLACE DECIMALS 90° ANGLES ± .5°		SEE 1 CASE CODE: B 07M26	REV: C
SCALE: NONE		647.3900	
		SHEET 3 OF 12	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

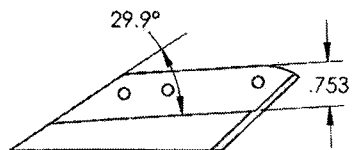
Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Crosstube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐
--	--	---

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

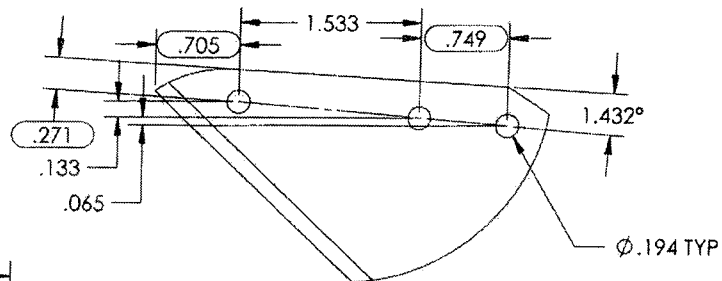
FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
--	--	---	--

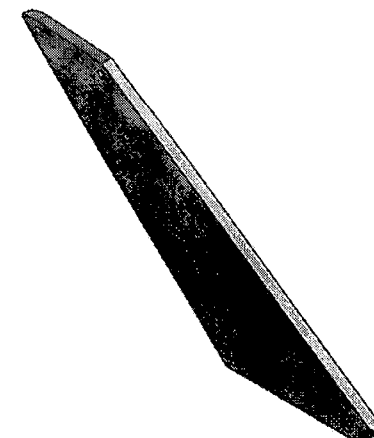
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.



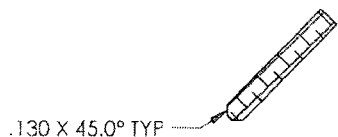
SECTION L-L



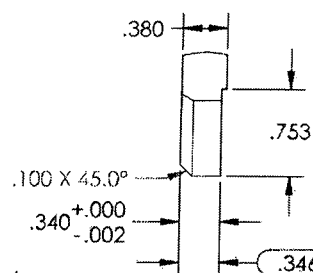
DETAIL H



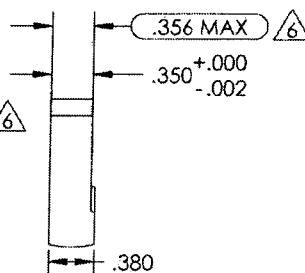
647.3912



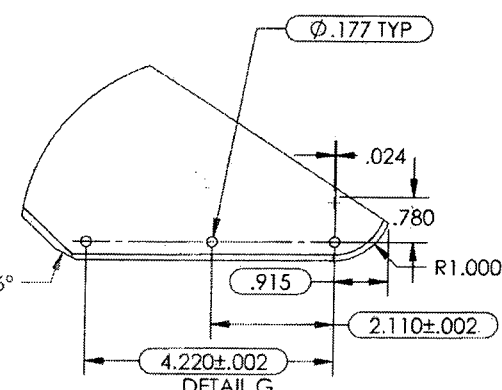
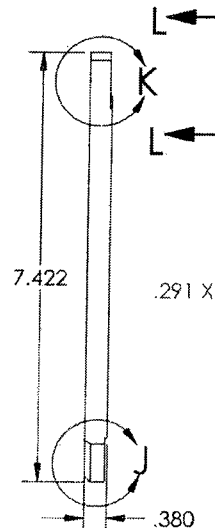
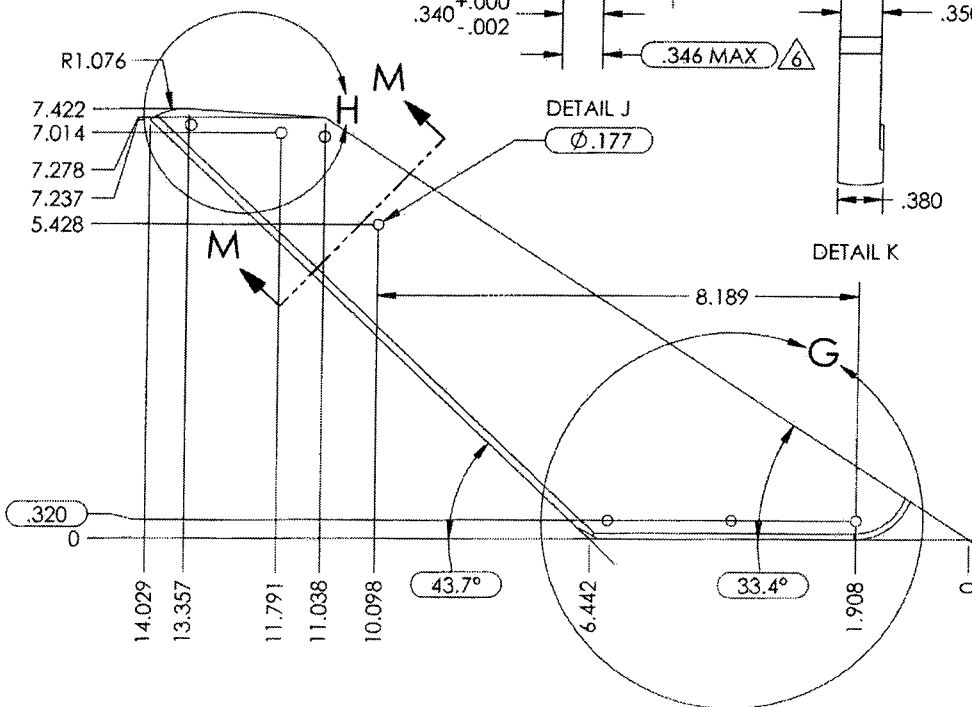
SECTION M-M



DETAIL J



DETAIL K



ORIGINAL DATE 12/10/09		APICAL INDUSTRIES	
DRAWN BY J. BARKER	CHECKED J. BARKER	2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA 92056-3512 (760) 724-5300	
DRAWING APPROVAL P. BLAND		DEFLECTORS	
CONTRACT NO.		REV. NO.	647.3900
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ± .01 ANGLES ± .5°		SCALE	NONE
		SHEET	4 OF 12

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Crosstube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐
--	--	---

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

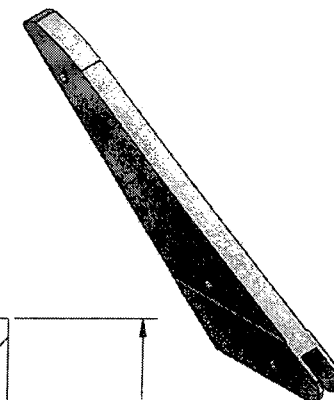
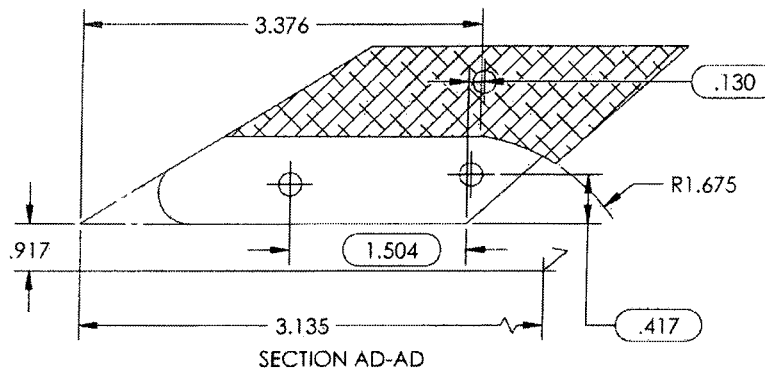
FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
--	--	---	--

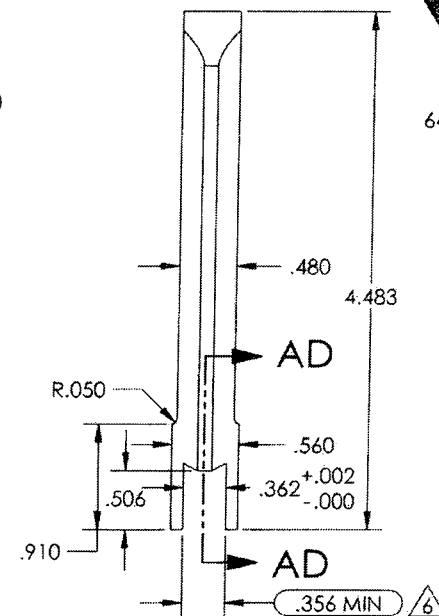
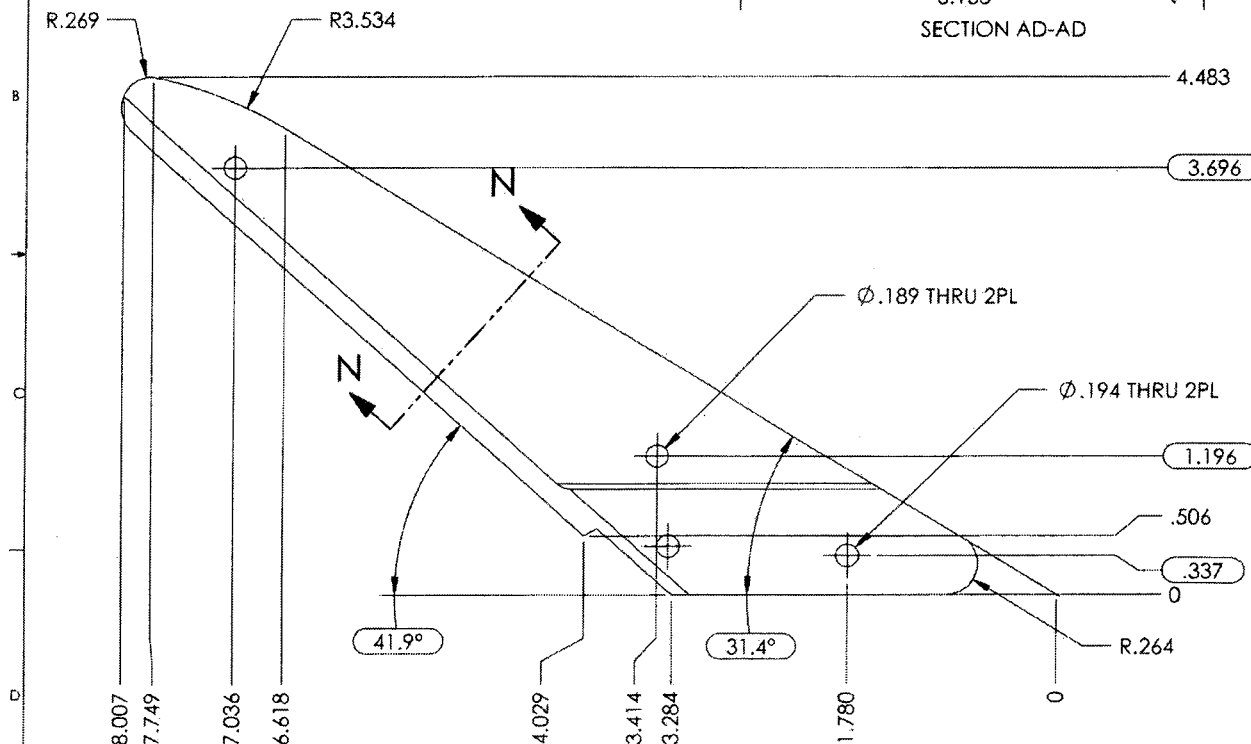
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

.180 X 45.0° TYP

SECTION N-N



647.3913



APICAL INDUSTRIES	
2608 TEMPLE HEIGHTS DR.	
OCEANSIDE, CA. 92056-3512 (760)724-5300	
DEFLECTORS	
DATE: 07/21/16	DWG. NO: 647.3900
SHEET: 5 OF 12	REV: C

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Crosstube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐
--	--	---

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

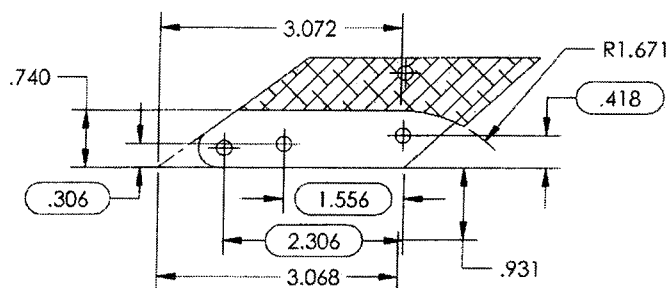
FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
--	--	---	--

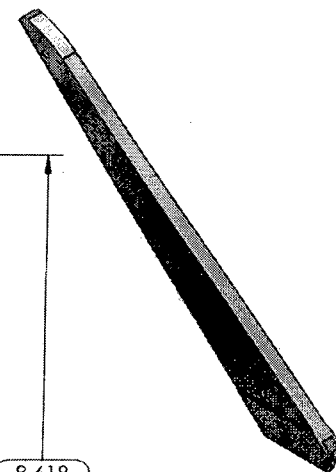
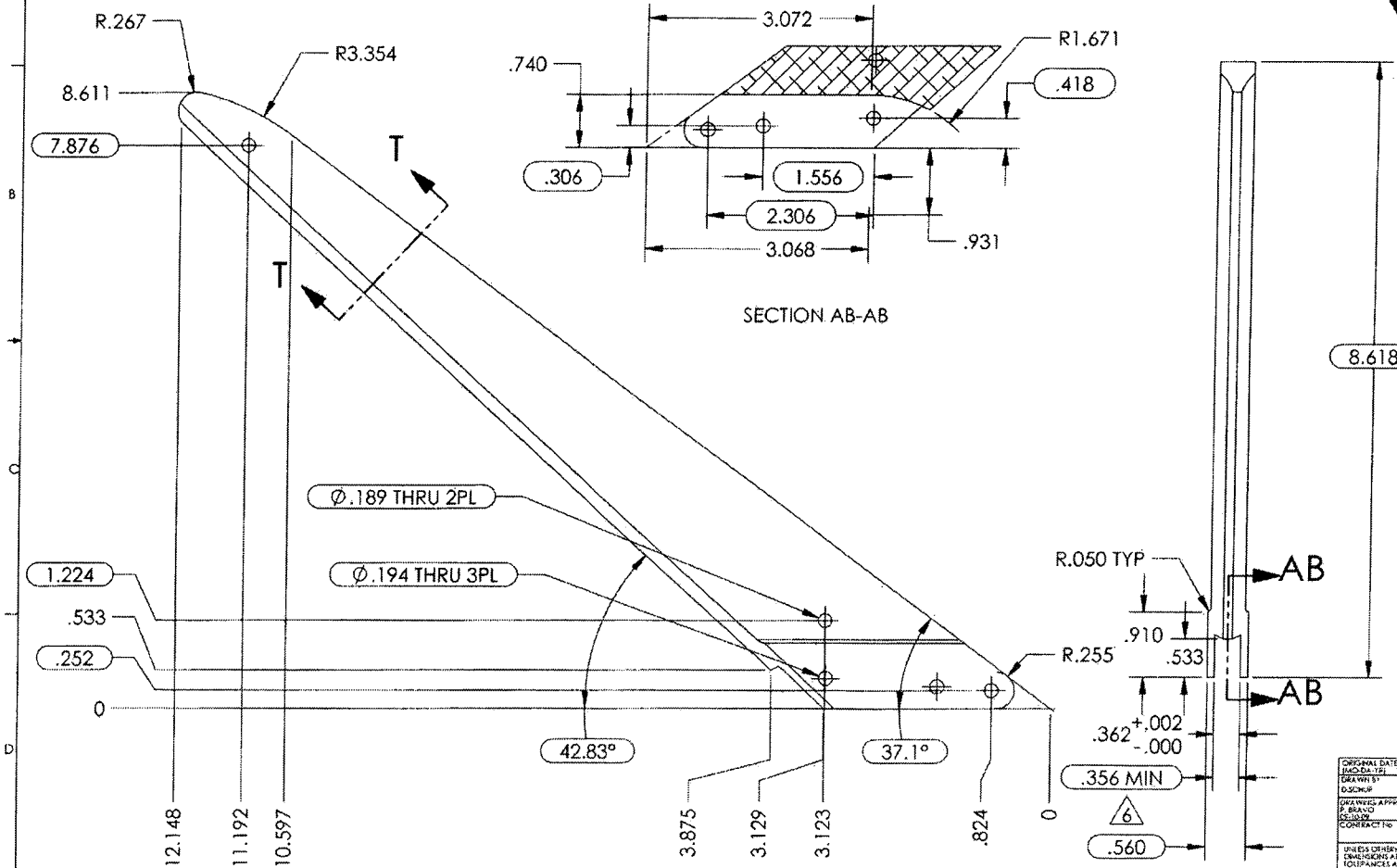
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

.175 X 45.0° TYP

SECTION T-T



SECTION AB-AB



647.3914

ORIGINAL DATE 1/24/1991 BY: JSD/		APICAL INDUSTRIES	
DRAWN BY: JSD/		2608 TEMPLE HEIGHTS DR.	
DESIGNED BY: JSD/		OCEANSIDE, CA. 92056-3512 (760)724-5300	
CHECKED BY: JSD/		DEFLECTORS	
CONTRACT NO.		SHEET 6 OF 12	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 1 PLACE DECIMALS .125 2 PLACE DECIMALS .005 3 PLACE DECIMALS .0005 ANGLES .5°		SHEET 6 OF 12	REV. C

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

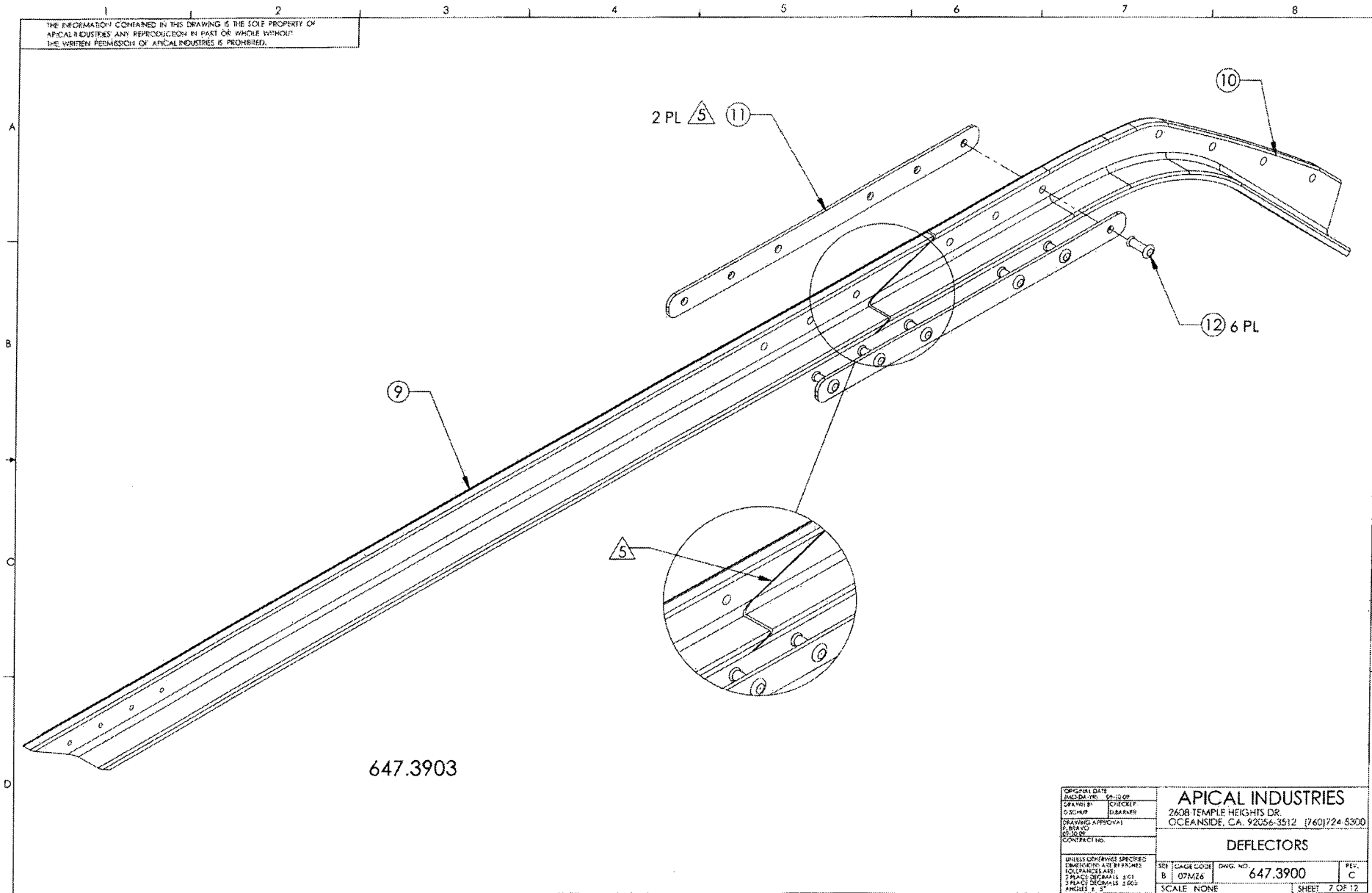
Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Crosstube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐
--	--	---

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
--	--	---	--

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.



ORIGINAL DATE		2/20/84	
DESIGNED BY	05/08/84	CHECKED	05/08/84
DRAWN BY	05/08/84	DESIGNED	05/08/84
DRAWING APPROVAL		CONTRACT NO.	
UNLESS OTHERWISE SPECIFIED		SCALE NONE	
DIMENSIONS ARE IN INCHES		SHEET 7 OF 12	
TOLERANCES ARE:		REV. C	
FRACTIONS DECIMALS 1/16"		DATE 07/26/84	
DECIMALS 1/32"		DWG. NO. 647.3900	
ANGLES 1/2°		SCALE NONE	

APICAL INDUSTRIES

2608 TEMPLE HEIGHTS DR.
OCEANSIDE, CA. 92056-3512 (760)724-5300

DEFLECTORS

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

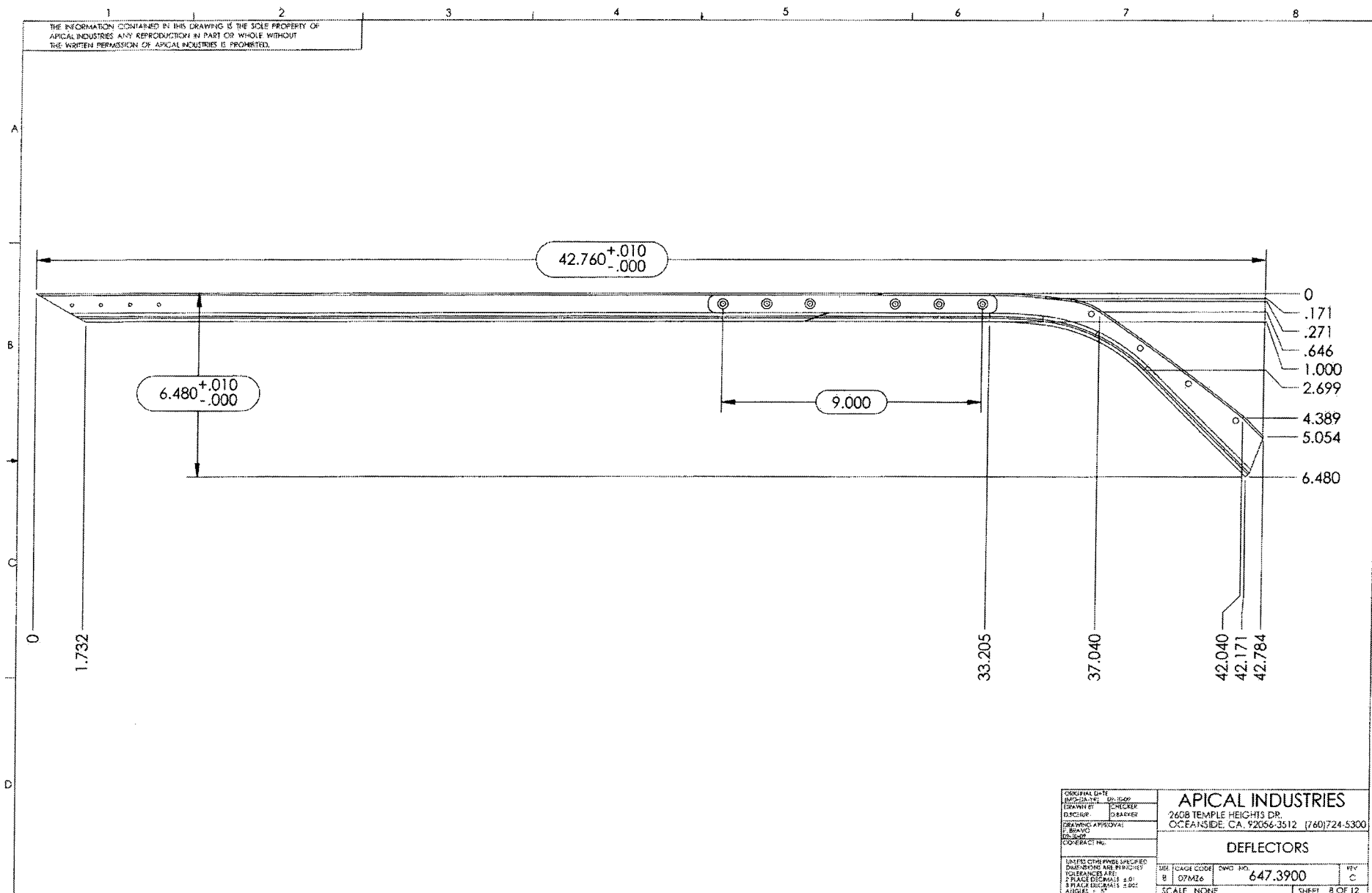
Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Crosstube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐
--	--	---

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
--	--	---	--

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.



DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

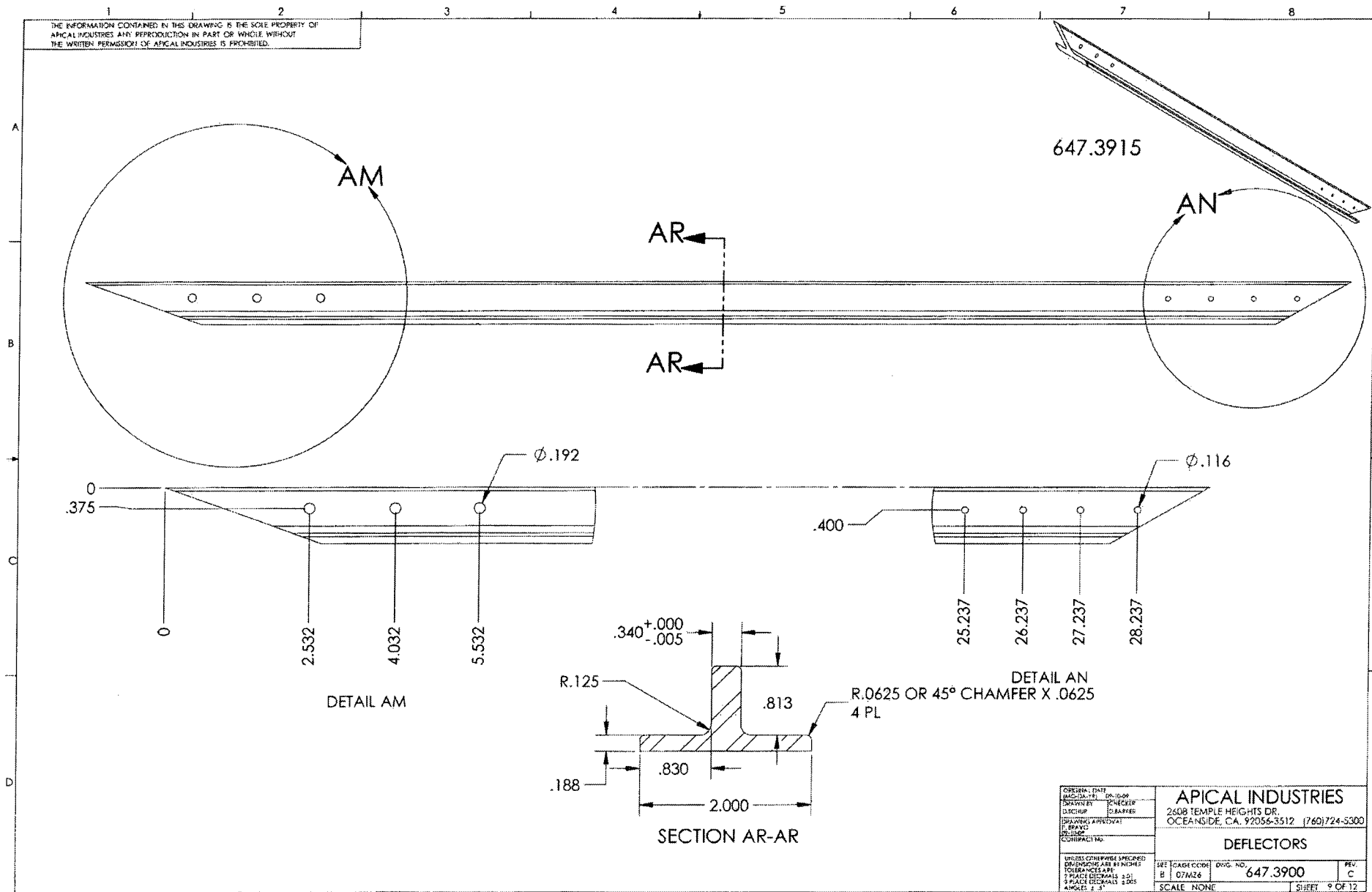
Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Crosstube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐
--	--	---

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
--	--	---	--

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.



ORDER: DATE MAGNITUDE: 10X-100X DRAWN BY: SCHNEIDER CHECKED BY: SCHNEIDER DESIGNED BY: SCHNEIDER DRAWING APPROVED BY: SCHNEIDER DATE: 07/12/06 CONTROLLING: 140		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760) 724-5300	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 1 PLACE DECIMALS ±.01 2 PLACE DECIMALS ±.005 ANGLES ±.1°		SHEET: 07/12/06 B: 07/12/06 SCALE: NONE	DIVS. NO.: 647.3900 REV: C
		DEFLECTORS SHEET 9 OF 12	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

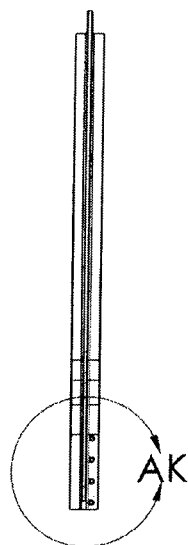
Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Crosstube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐
--	--	---

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

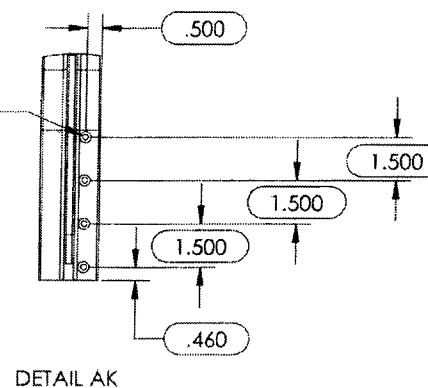
FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
--	--	---	--

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF
APICAL INDUSTRIES ANY REPRODUCTION IN PART OR WHOLE WITHOUT
THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.



4X $\phi .196 \pm .010$ THRU ALL
✓ $\phi .385 \pm .020 \times 100^\circ \pm 1.000^\circ$



DETAIL AK

647.3915

ORIGINAL DATE REVISED DATE		TO: 10.00	
DRAWN BY: J. B. BAKER		CHECKED BY: J. B. BAKER	
DRAWING APPROVAL BY: J. B. BAKER		DATE: 10.00	
CONTRACT NO.		CONTRACT NO.	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES 1/16 1/32 1/64 1/128 1/256 1/512 1/1024 1/2048 1/4096 1/8192 1/16384 1/32768 1/65536 1/131072 1/262144 1/524288 1/1048576 1/2097152 1/4194304 1/8388608 1/16777216 1/33554432 1/67108864 1/134217728 1/268435456 1/536870912 1/1073741824 1/2147483648 1/4294967296 1/8589934592 1/17179869184 1/34359738368 1/68719476736 1/137438953472 1/274877906944 1/549755813888 1/1099511627776 1/2199023255552 1/4398046511104 1/8796093022208 1/17592186044416 1/35184372088832 1/70368744177664 1/140737488355328 1/281474976710656 1/562949953421312 1/1125899906842624 1/2251799813685248 1/4503599627370496 1/9007199254740992 1/18014398509481984 1/36028797018963968 1/72057594037927936 1/144115188075855872 1/288230376151711744 1/576460752303423488 1/1152921504606846976 1/2305843009213693952 1/4611686018427387904 1/9223372036854775808 1/18446744073709551616 1/36893488147419103232 1/73786976294838206464 1/147573952589676412928 1/295147905179352825856 1/590295810358705651712 1/1180591620717411303424 1/2361183241434822606848 1/4722366482869645213696 1/9444732965739290427392 1/18889465931478580854784 1/37778931862957161709568 1/75557863725914323419136 1/151115727451828646838272 1/302231454903657293676544 1/604462909807314587353088 1/1208925819614629174706176 1/2417851639229258349412352 1/4835703278458516698824704 1/9671406556917033397649408 1/19342813113834066795298816 1/38685626227668133590597632 1/77371252455336267181195264 1/154742504910672534362390528 1/309485009821345068724781056 1/618970019642690137449562112 1/1237940039285380274899124224 1/2475880078570760549798248448 1/4951760157141521099596496896 1/9903520314283042199192993792 1/19807040628566084398385987584 1/39614081257132168796771975168 1/79228162514264337593543950336 1/158456325028528675187087900672 1/316912650057057350374175801344 1/633825300114114700748351602688 1/1267650600228229401496703205376 1/2535301200456458802993406410752 1/5070602400912917605986812821504 1/10141204801825835211973625643008 1/20282409603651670423947251286016 1/40564819207303340847894502572032 1/81129638414606681695789005144064 1/162259276829213363391578010288128 1/324518553658426726783156020576256 1/649037107316853453566312041152512 1/1298074214633706907132624082305024 1/2596148429267413814265248164610048 1/5192296858534827628530496329220096 1/10384593717069655257060992658440192 1/20769187434139310514121985316880384 1/41538374868278621028243970633760768 1/83076749736557242056487941267521536 1/166153499473114484112975882535043072 1/332306998946228968225951765070086144 1/664613997892457936451903530140172288 1/1329227995784915872903807060280344576 1/2658455991569831745807614120560689152 1/5316911983139663491615228241121378304 1/10633823966279326983230456482242756608 1/21267647932558653966460912964485513216 1/42535295865117307932921825928971026432 1/85070591730234615865843651857942052864 1/170141183460469231731687303715884105728 1/340282366920938463463374607431768211456 1/680564733841876926926749214863536422912 1/1361129467683753853853498429727072845824 1/2722258935367507707706996859454145691648 1/5444517870735015415413993718908291383296 1/10889035741470030830827987437816582766592 1/21778071482940061661655974875633165533184 1/43556142965880123323311949751266331066368 1/87112285931760246646623899502532662132736 1/174224571863520493293247799005065244265536 1/348449143727040986586495598010130488531072 1/696898287454081973172991196020260977062144 1/1393796574908163946345982392040521954124288 1/2787593149816327892691964784081043908248576 1/5575186299632655785383929568162087816497152 1/11150372599265311570767859136324175632994304 1/22300745198530623141535718272648351265988608 1/44601490397061246283071436545296702531977216 1/89202980794122492566142873090593405063954432 1/178405961588244985132285746181186810127908864 1/356811923176489970264571492362373620255817728 1/713623846352979940529142984724747240511635456 1/1427247692705959881058285969449494481023270912 1/2854495385411919762116571938898988962046541824 1/5708990770823839524233143877797977924093083648 1/11417981541647679048466287755595955848186167296 1/22835963083295358096932575511191911696372334592 1/45671926166590716193865151022383823392744669184 1/91343852333181432387730302044767646785489338368 1/182687704666362864775460604089535293570978676736 1/365375409332725729550921208179070587141957353472 1/730750818665451459101842416358141174283914706944 1/1461501637330902918203684832716282348567829413888 1/2923003274661805836407369665432564697135658827776 1/5846006549323611672814739330865129394271317655552 1/11692013098647223345629478661730258788542635311104 1/23384026197294446691258957323460517577085270622208 1/46768052394588893382517914646921035154170541244416 1/93536104789177786765035829293842070308341082488832 1/187072209578355573530071658587684140616682164977664 1/374144419156711147060143317175368281233364329955328 1/748288838313422294120286634350736562466728659910656 1/1496577676626844588240573268701473124933457319821312 1/2993155353253689176481146537402946249866914639642624 1/5986310706507378352962293074805892499733829279285248 1/11972621413014756705924586149611784999467658558570496 1/23945242826029513411849172299223569998935317117140992 1/47890485652059026823698344598447139997870634234281984 1/95780971304118053647396689196894279995741268468563968 1/191561942608236107294793378393788559991482537337127936 1/383123885216472214589586756787577119982965074674255872 1/766247770432944429179173513575154239965930149348511744 1/1532495540865888858358347027150308479931860298697023488 1/3064991081731777716716694054300616959863720597394046976 1/6129982163463555433433388108601233919727441194788093952 1/12259964326927110866866776217202467839454882389576187904 1/24519928653854221733733552434404935678909764779152375808 1/49039857307708443467467104868809871357819529558304751616 1/98079714615416886934934209737619742715639059116609503232 1/196159429230833773869868419475239485431278118233219006464 1/392318858461667547739736838950478970862556236466438012928 1/784637716923335095479473677900957941725112472932876025856 1/1569275433846670190958947355801915883450224945865752051712 1/3138550867693340381917894711603831766900449891731504103424 1/6277101735386680763835789423207663533800899783463008206848 1/12554203470773361527671578846415327067601799566926016413696 1/25108406941546723055343157692830654135203599133852032827392 1/50216813883093446110686315385661308270407198267704065654784 1/100433627766186892221372630771322616540814396535408131309568 1/200867255532373784442745261542645233081628793070816262619136 1/401734511064747568885490523085290466163257586141632525238272 1/803469022129495137770981046170580932326515172283265050476544 1/1606938044258990275541962092341161864653030344566530100953088 1/3213876088517980551083924184682323729306060689133060201906176 1/6427752177035961102167848369364647458612121378266120403812352 1/12855504354071922204335696738729294917224242756532240807624704 1/25711008708143844408671393477458589834448485513064481615249408 1/51422017416287688817342786954917179668896971026128963230498816 1/102844034832575377634685573909834359337793942052257926460997632 1/205688069665150755269371147819668718675587884104515852921995264 1/411376139330301510538742295639337437351175768209031705843990528 1/822752278660603021077484591278674874702351536418063411687981056 1/1645504557321206042154969182557349749404703072836126823375962112 1/3291009114642412084309938365114699498809406145672253646751924224 1/6582018229284824168619876730229398997618812291344507293503848448 1/1316403645856964833723975346045879799523762458268901458700769696 1/2632807291713929667447950692091759599047524916537802917401539392 1/5265614583427859334895901384183519198095049833075605834803078784 1/10531229166855718669791802768367038396190099666151211669606157568 1/21062458333711437339583605536734076792380199332302423339212315136 1/42124916667422874679167211073468153584760398664604846678424630272 1/84249833334845749358334422146936307169520797329209693356849260544 1/168499666689691498716668844293872614339041594658419386713698521088 1/336999333379382997433337688587745228678083189316838773427397042176 1/673998666758765994866675377175490457356166378633677546854794084352 1/1347997333517531989733350754350980914712332757267355093709588168704 1/2695994667035063979466701508701961829424665514534710187419176337408 1/5391989334070127958933403017403923658849331029069420374838352674816 1/10783978668140255917866806034807847317698662058138840749676705349632 1/21567957336280511835733612069615694635397324116277681499353410699264 1/43135914672561023671467224139231389270794648232555362998706821398528 1/86271829345122047342934448278462778541589296465110725997413642797056 1/172543658690244094685868896556925557083178592930221451994827285594112 1/345087317380488189371737793113851114166357185860442903989654571188224 1/690174634760976378743475586227702228332714371720885807979309142376448 1/1380349269521952757486951172455404456665428743441771615958618284752896 1/2760698539043905514973902344910808913330857486883543231917236569505792 1/5521397078087811029947804689821617826661714973767086463834473139011584 1/11042794156175622059895609379643235653323429947534172927668946278023168 1/22085588312351244119791218759286471306646859895068345855337892556046336 1/44171176624702488239582437518572942613293719790136691710675785112092672 1/88342353249404976479164875037145885226587439580273383421351570224185344 1/176684706498809952958329750074291770453174879160546766842703140448370688 1/353369412997619905916659500148583540906349758321093533685406280896741376 1/706738825995239811833319000297167081812699516642187067370812561793482752 1/1413477651990479623666638000594334163625399033284374134741625123586965504 1/2826955303980959247333276001188668327250798066568748269483250247173931008 1/5653910607961918494666552002377336654501596133137496538966500494347862016 1/11307821215923836989333104004754673309003192266274993077932000988695724032 1/22615642431847673978666208009509346618006384532549986155864001977391448064 1/45231284863695347957332416019018693236012769065099972311728003954782896128 1/90462569727390695914664832038037386472025538130199944623456007909565792256 1/180925139454781391829329664076074772944051076260399889246912015819131584512 1/361850278909562783658659328152149545888102152520799778493824031638263169024 1/723700557819125567317318656304299091776204305041599556987648063276526338048 1/1447401115638251134634637312608598183552408610083199113975296126553052676096 1/2894802231276502269269274625217196367104817220166398227950592253106105352192 1/5789604462553004538538549250434392734209634440332796455901184506212210704384 1/11579208925106009077077098500868785468419268880665592911802369012424421408768 1/23158417850212018154154197001737570936838537761331185823604738024848842817536 1/4631683570042403630833403017403923658849331029069420374838352674816 1/9263367140084807261666806034807847317698662058138840749676705349632 1/185267342801696145233233576013900567494708302090649486588837904198790742540288 1/370534685603392290466467152027801134989416604181298973177675808397581485080576 1/74106937120678458093293448278462778541589296465110725997413642797056 1/1482138742413569161865868608111204539957666416725195892710703233590325940322304 1/2964277484827138323731737216222409079915332833450391785421406467180651880644608 1/5928554969654276647463474432444818159830665666900783570842812934361303761289216 1/11857109939308553294926948864889636319661331333801567141685625868722607522578432 1/23714219878617106589853897729779272639322662667603134283371251737445215045156864 1/47428439757234213179707795459			

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

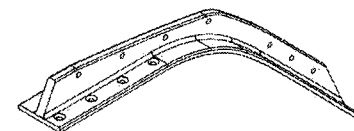
Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐															
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐															
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐															
Large Fab ☐	Composite ☐	Supplier ☐																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

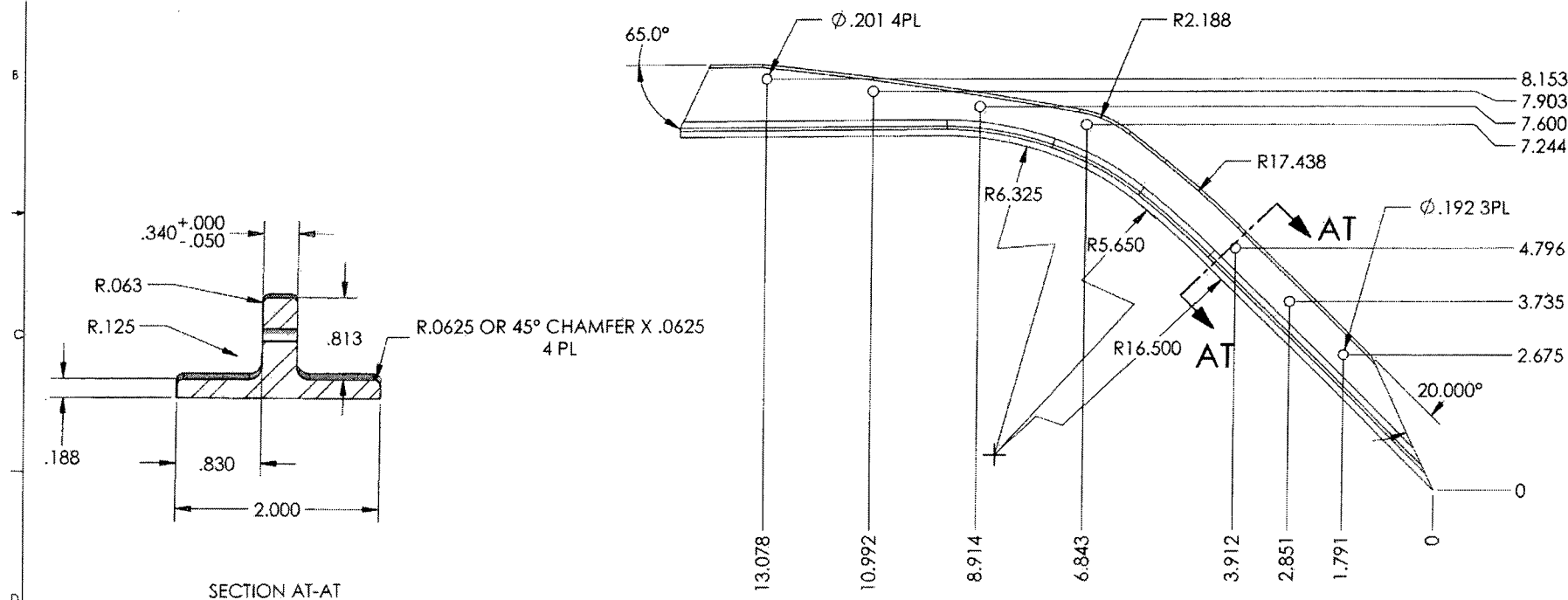
FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other _____ _____ _____
--	--	---	---

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF
APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT
THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.



647.3916



SECTION AT-AT

OFFICIAL DATE INVOICE NO. 06-15-79 DRAWN BY J. SCHUB CHECKED J. BAKER DESIGNED J. BAKER DRAWING APPROVAL P. BRAVO DATE 06-20-79 CONTRACT NO.	APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA 92056-3512 (760) 724-5300		
DEFLECTORS			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES .0001 .0005 .001 .0015 .002 .003 .005 .010 .015 .020 .030 .040 .050 .060 .070 .080 .090 .100 .110 .120 .130 .140 .150 .160 .170 .180 .190 .200 .210 .220 .230 .240 .250 .260 .270 .280 .290 .300 .310 .320 .330 .340 .350 .360 .370 .380 .390 .400 .410 .420 .430 .440 .450 .460 .470 .480 .490 .500 .510 .520 .530 .540 .550 .560 .570 .580 .590 .600 .610 .620 .630 .640 .650 .660 .670 .680 .690 .700 .710 .720 .730 .740 .750 .760 .770 .780 .790 .800 .810 .820 .830 .840 .850 .860 .870 .880 .890 .900 .910 .920 .930 .940 .950 .960 .970 .980 .990 .001 .002 .003 .004 .005 .006 .007 .008 .009 .010 .011 .012 .013 .014 .015 .016 .017 .018 .019 .020 .021 .022 .023 .024 .025 .026 .027 .028 .029 .030 .031 .032 .033 .034 .035 .036 .037 .038 .039 .040 .041 .042 .043 .044 .045 .046 .047 .048 .049 .050 .051 .052 .053 .054 .055 .056 .057 .058 .059 .060 .061 .062 .063 .064 .065 .066 .067 .068 .069 .070 .071 .072 .073 .074 .075 .076 .077 .078 .079 .080 .081 .082 .083 .084 .085 .086 .087 .088 .089 .090 .091 .092 .093 .094 .095 .096 .097 .098 .099 .100 .101 .102 .103 .104 .105 .106 .107 .108 .109 .110 .111 .112 .113 .114 .115 .116 .117 .118 .119 .120 .121 .122 .123 .124 .125 .126 .127 .128 .129 .130 .131 .132 .133 .134 .135 .136 .137 .138 .139 .140 .141 .142 .143 .144 .145 .146 .147 .148 .149 .150 .151 .152 .153 .154 .155 .156 .157 .158 .159 .160 .161 .162 .163 .164 .165 .166 .167 .168 .169 .170 .171 .172 .173 .174 .175 .176 .177 .178 .179 .180 .181 .182 .183 .184 .185 .186 .187 .188 .189 .190 .191 .192 .193 .194 .195 .196 .197 .198 .199 .200 .201 .202 .203 .204 .205 .206 .207 .208 .209 .210 .211 .212 .213 .214 .215 .216 .217 .218 .219 .220 .221 .222 .223 .224 .225 .226 .227 .228 .229 .230 .231 .232 .233 .234 .235 .236 .237 .238 .239 .240 .241 .242 .243 .244 .245 .246 .247 .248 .249 .250 .251 .252 .253 .254 .255 .256 .257 .258 .259 .260 .261 .262 .263 .264 .265 .266 .267 .268 .269 .270 .271 .272 .273 .274 .275 .276 .277 .278 .279 .280 .281 .282 .283 .284 .285 .286 .287 .288 .289 .290 .291 .292 .293 .294 .295 .296 .297 .298 .299 .300 .301 .302 .303 .304 .305 .306 .307 .308 .309 .310 .311 .312 .313 .314 .315 .316 .317 .318 .319 .320 .321 .322 .323 .324 .325 .326 .327 .328 .329 .330 .331 .332 .333 .334 .335 .336 .337 .338 .339 .340 .341 .342 .343 .344 .345 .346 .347 .348 .349 .350 .351 .352 .353 .354 .355 .356 .357 .358 .359 .360 .361 .362 .363 .364 .365 .366 .367 .368 .369 .370 .371 .372 .373 .374 .375 .376 .377 .378 .379 .380 .381 .382 .383 .384 .385 .386 .387 .388 .389 .390 .391 .392 .393 .394 .395 .396 .397 .398 .399 .400 .401 .402 .403 .404 .405 .406 .407 .408 .409 .410 .411 .412 .413 .414 .415 .416 .417 .418 .419 .420 .421 .422 .423 .424 .425 .426 .427 .428 .429 .430 .431 .432 .433 .434 .435 .436 .437 .438 .439 .440 .441 .442 .443 .444 .445 .446 .447 .448 .449 .450 .451 .452 .453 .454 .455 .456 .457 .458 .459 .460 .461 .462 .463 .464 .465 .466 .467 .468 .469 .470 .471 .472 .473 .474 .475 .476 .477 .478 .479 .480 .481 .482 .483 .484 .485 .486 .487 .488 .489 .490 .491 .492 .493 .494 .495 .496 .497 .498 .499 .500 .501 .502 .503 .504 .505 .506 .507 .508 .509 .510 .511 .512 .513 .514 .515 .516 .517 .518 .519 .520 .521 .522 .523 .524 .525 .526 .527 .528 .529 .530 .531 .532 .533 .534 .535 .536 .537 .538 .539 .540 .541 .542 .543 .544 .545 .546 .547 .548 .549 .550 .551 .552 .553 .554 .555 .556 .557 .558 .559 .560 .561 .562 .563 .564 .565 .566 .567 .568 .569 .570 .571 .572 .573 .574 .575 .576 .577 .578 .579 .580 .581 .582 .583 .584 .585 .586 .587 .588 .589 .590 .591 .592 .593 .594 .595 .596 .597 .598 .599 .600 .601 .602 .603 .604 .605 .606 .607 .608 .609 .610 .611 .612 .613 .614 .615 .616 .617 .618 .619 .620 .621 .622 .623 .624 .625 .626 .627 .628 .629 .630 .631 .632 .633 .634 .635 .636 .637 .638 .639 .640 .641 .642 .643 .644 .645 .646 .647 .648 .649 .650 .651 .652 .653 .654 .655 .656 .657 .658 .659 .660 .661 .662 .663 .664 .665 .666 .667 .668 .669 .670 .671 .672 .673 .674 .675 .676 .677 .678 .679 .680 .681 .682 .683 .684 .685 .686 .687 .688 .689 .690 .691 .692 .693 .694 .695 .696 .697 .698 .699 .700 .701 .702 .703 .704 .705 .706 .707 .708 .709 .710 .711 .712 .713 .714 .715 .716 .717 .718 .719 .720 .721 .722 .723 .724 .725 .726 .727 .728 .729 .730 .731 .732 .733 .734 .735 .736 .737 .738 .739 .740 .741 .742 .743 .744 .745 .746 .747 .748 .749 .750 .751 .752 .753 .754 .755 .756 .757 .758 .759 .760 .761 .762 .763 .764 .765 .766 .767 .768 .769 .770 .771 .772 .773 .774 .775 .776 .777 .778 .779 .780 .781 .782 .783 .784 .785 .786 .787 .788 .789 .790 .791 .792 .793 .794 .795 .796 .797 .798 .799 .800 .801 .802 .803 .804 .805 .806 .807 .808 .809 .810 .811 .812 .813 .814 .815 .816 .817 .818 .819 .820 .821 .822 .823 .824 .825 .826 .827 .828 .829 .830 .831 .832 .833 .834 .835 .836 .837 .838 .839 .840 .841 .842 .843 .844 .845 .846 .847 .848 .849 .850 .851 .852 .853 .854 .855 .856 .857 .858 .859 .860 .861 .862 .863 .864 .865 .866 .867 .868 .869 .870 .871 .872 .873 .874 .875 .876 .877 .878 .879 .880 .881 .882 .883 .884 .885 .886 .887 .888 .889 .890 .891 .892 .893 .894 .895 .896 .897 .898 .899 .900 .901 .902 .903 .904 .905 .906 .907 .908 .909 .910 .911 .912 .913 .914 .915 .916 .917 .918 .919 .920 .921 .922 .923 .924 .925 .926 .927 .928 .929 .930 .931 .932 .933 .934 .935 .936 .937 .938 .939 .940 .941 .942 .943 .944 .945 .946 .947 .948 .949 .950 .951 .952 .953 .954 .955 .956 .957 .958 .959 .960 .961 .962 .963 .964 .965 .966 .967 .968 .969 .970 .971 .972 .973 .974 .975 .976 .977 .978 .979 .980 .981 .982 .983 .984 .985 .986 .987 .988 .989 .990 .991 .992 .993 .994 .995 .996 .997 .998 .999 .000 .001 .002 .003 .004 .005 .006 .007 .008 .009 .010 .011 .012 .013 .014 .015 .016 .017 .018 .019 .020 .021 .022 .023 .024 .025 .026 .027 .028 .029 .030 .031 .032 .033 .034 .035 .036 .037 .038 .039 .040 .041 .042 .043 .044 .045 .046 .047 .048 .049 .050 .051 .052 .053 .054 .055 .056 .057 .058 .059 .060 .061 .062 .063 .064 .065 .066 .067 .068 .069 .070 .071 .072 .073 .074 .075 .076 .077 .078 .079 .080 .081 .082 .083 .084 .085 .086 .087 .088 .089 .090 .091 .092 .093 .094 .095 .096 .097 .098 .099 .100 .101 .102 .103 .104 .105 .106 .107 .108 .109 .110 .111 .112 .113 .114 .115 .116 .117 .118 .119 .120 .121 .122 .123 .124 .125 .126 .127 .128 .129 .130 .131 .132 .133 .134 .135 .136 .137 .138 .139 .140 .141 .142 .143 .144 .145 .146 .147 .148 .149 .150 .151 .152 .153 .154 .155 .156 .157 .158 .159 .160 .161 .162 .163 .164 .165 .166 .167 .168 .169 .170 .171 .172 .173 .174 .175 .176 .177 .178 .179 .180 .181 .182 .183 .184 .185 .186 .187 .188 .189 .190 .191 .192 .193 .194 .195 .196 .197 .198 .199 .200 .201 .202 .203 .204 .205 .206 .207 .208 .209 .210 .211 .212 .213 .214 .215 .216 .217 .218 .219 .220 .221 .222 .223 .224 .225 .226 .227 .228 .229 .230 .231 .232 .233 .234 .235 .236 .237 .238 .239 .240 .241 .242 .243 .244 .245 .246 .247 .248 .249 .250 .251 .252 .253 .254 .255 .256 .257 .258 .259 .260 .261 .262 .263 .264 .265 .266 .267 .268 .269 .270 .271 .272 .273 .274 .275 .276 .277 .278 .279 .280 .281 .282 .283 .284 .285 .286 .287 .288 .289 .290 .291 .292 .293 .294 .295 .296 .297 .298 .299 .300 .301 .302 .303 .304 .305 .306 .307 .308 .309 .310 .311 .312 .313 .314 .315 .316 .317 .318 .319 .320 .321 .322 .323 .324 .325 .326 .327 .328 .329 .330 .331 .332 .333 .334 .335 .336 .337 .338 .339 .340 .341 .342 .343 .344 .345 .346 .347 .348 .349 .350 .351 .352 .353 .354 .355 .356 .357 .358 .359 .360 .361 .362 .363 .364 .365 .366 .367 .368 .369 .370 .371 .372 .373 .374 .375 .376 .377 .378 .379 .380 .381 .382 .383 .384 .385 .386 .387 .388 .389 .390 .391 .392 .393 .394 .395 .396 .397 .398 .399 .400 .401 .402 .403 .404 .405 .406 .407 .408 .409 .410 .411 .412 .413 .414 .415 .416 .417 .418 .419 .420 .421 .422 .423 .424 .425 .426 .427 .428 .429 .430 .431 .432 .433 .434 .435 .436 .437 .438 .439 .440 .441 .442 .443 .444 .445 .446 .447 .448 .449 .450 .451 .452 .453 .454 .455 .456 .457 .458 .459 .460 .461 .462 .463 .464 .465 .466 .467 .468 .469 .470 .471 .472 .473 .474 .475 .476 .477 .478 .479 .480 .481 .482 .483 .484 .485 .486 .487 .488 .489 .490 .491 .492 .493 .494 .495 .496 .497 .498 .499 .500 .501 .502 .503 .504 .505 .506 .507 .508 .509 .510 .511 .512 .513 .514 .515 .516 .517 .518 .519 .520 .521 .522 .523 .524 .525 .526 .527 .528 .529 .530 .531 .532 .533 .534 .535 .536 .537 .538 .539 .540 .541 .542 .543 .544 .545 .546 .547 .548 .549 .550 .551 .552 .553 .554 .555 .556 .557 .558 .559 .560 .561 .562 .563 .564 .565 .566 .567 .568 .569 .570 .571 .572 .573 .574 .575 .576 .577 .578 .579 .580 .581 .582 .583 .584 .585 .586 .587 .588 .589 .590 .591 .592 .593 .594 .595 .596 .597 .598 .599 .600 .601 .602 .603 .604 .605 .606 .607 .608 .609 .610 .611 .612 .613 .614 .615 .616 .617 .618 .619 .620 .621 .622 .623 .624 .625 .626 .627 .628 .629 .630 .631 .632 .633 .634 .635 .636 .637 .638 .639 .640 .641 .642 .643 .644 .645 .646 .647 .648 .649 .650 .651 .652 .653 .654 .655 .656 .657 .658 .659 .660 .661 .662 .663 .664 .665 .666 .667 .668 .669 .670 .671 .672 .673 .674 .675 .676 .677 .678 .679 .680 .681 .682 .683 .684 .685 .686 .687 .688 .689 .690 .691 .692 .693 .694 .695 .696 .697 .698 .699 .700 .701 .702 .703 .704 .705 .706 .707 .708 .709 .710 .711 .712 .713 .714 .715 .716 .717 .718 .719 .720 .721 .722 .723 .724 .725 .726 .727 .728 .729 .730 .731 .732 .733 .734 .735 .736 .737 .738 .739 .740 .741 .742 .743 .744 .745 .746 .747 .748 .749 .750 .751 .752 .753 .754 .755 .756 .757 .758 .759 .760 .761 .762 .763 .764 .765 .766 .767 .768 .769 .770 .771 .772 .773 .774 .775 .776 .777 .778 .779 .780 .781 .782 .783 .784 .785 .786 .787 .788 .789 .790 .791 .792 .793 .794 .795 .796 .797 .798 .799 .800 .801 .802 .803 .804 .805 .806 .807 .808 .809 .810 .811 .812 .813 .814 .815 .816 .817 .818 .819 .820 .821 .822 .823 .824 .825 .826 .827 .828 .829 .830 .831 .832 .833 .834 .835 .836 .837 .838 .839 .840 .841 .842 .843 .844 .845 .846 .847 .848 .849 .850 .851 .852 .853 .854 .855 .856 .857 .858 .859 .860 .861 .862 .863 .864 .865 .866 .867 .868 .869 .870 .871 .872 .873 .874 .875 .876 .877 .878 .879 .880 .881 .882 .883 .884 .885 .886 .887 .888 .889 .890 .891 .892 .893 .894 .895 .896 .897 .898 .899 .900 .901 .902 .903 .904 .905 .906 .907 .908 .909 .910 .911 .912 .913 .914 .915 .916 .917 .918 .919 .920 .921 .922 .923 .924 .925 .926 .927 .928 .929 .930 .931 .932 .933 .934 .935 .936 .937 .938 .939 .940 .941 .942 .943 .944 .945 .946 .947 .948 .949 .950 .951 .952 .953 .954 .955 .956 .957 .958 .959 .960 .961 .962 .963 .964 .965 .966 .967 .968 .969 .970 .971 .972 .973 .974 .975 .976 .977 .978 .979 .980 .981 .982 .983 .984 .985 .986 .987 .988 .989 .990 .991 .992 .993 .994 .995 .996 .997 .998 .999 .000 .001 .002 .003 .004 .005 .006 .007 .008 .009 .010 .011 .012 .013 .014 .015 .016 .017 .018 .019 .020 .021 .022 .023 .024 .025 .026 .027 .028 .029 .030 .031 .032 .033 .034 .035 .036 .037 .038 .039 .040 .041 .042 .043 .044 .045 .046 .047 .048 .049 .050 .051 .052 .053 .054 .055 .056 .057 .058 .059 .060 .061 .062 .063 .064 .065 .066 .067 .068 .069 .070 .071 .072 .073 .074 .075 .076 .077 .078 .079 .080 .081 .082 .083 .084 .085 .086 .087 .088 .089 .090 .091 .092 .093 .094 .095 .096 .097 .098 .099 .100 .101 .102 .103 .104 .105 .106 .107 .108 .109 .110 .111 .112 .113 .114 .115 .116 .117 .118 .119 .120 .121 .122 .123 .124 .125 .126 .127 .128 .129 .130 .131 .132 .133 .134 .135 .136 .137 .138 .139 .140 .141 .142 .143 .144 .145 .146 .147 .148 .149 .150 .151 .152 .153 .154 .155 .156 .157 .158 .159 .160 .161 .162 .163 .164 .165 .166 .167 .168 .169 .170 .171 .172 .173 .174 .175 .176 .177 .178 .179 .180 .181 .182 .183 .184 .185 .186 .187 .188 .189 .190 .191 .192 .193 .194 .195 .196 .197 .198 .199 .200 .201 .202 .203 .204 .205 .206 .207 .208 .209 .210 .211 .212 .213 .214 .215 .216 .217 .218 .219 .220 .221 .222 .223 .224 .225 .226 .227 .228 .229 .230 .231 .232 .233 .234 .235 .236 .237 .238 .239 .240 .241 .242 .243 .244 .245 .246 .247 .248 .249 .250 .251 .252 .253 .254 .255 .256 .257 .258 .259 .260 .261 .262 .263 .264 .265 .266 .267 .268 .269 .270 .271 .272 .273 .274 .275 .276 .277 .278 .279 .280 .281 .282 .283 .284 .285 .286 .287 .288 .289 .290 .291 .292 .293 .294 .295 .296 .297 .298 .299 .300 .301 .302 .303 .304 .305 .306 .307 .308 .309 .310 .311 .312 .313 .314 .315 .316 .317 .318 .319 .320 .321 .322 .323 .324 .325 .326 .327 .328 .329 .330 .331 .332 .333 .334 .335 .336 .337 .338 .339 .340 .341 .342 .343 .344 .345 .346 .347 .348 .349 .350 .351 .352 .353 .354 .355 .356 .357 .358 .359 .360 .361 .362 .363 .364 .365 .366 .367 .368 .369 .370 .371 .372 .373 .374 .375 .376 .377 .378 .379 .380 .381 .382 .383 .384 .385 .386 .387 .388 .389 .390 .391 .392 .393 .394 .395 .396 .397 .398 .399 .400 .401 .402 .403 .404 .405 .406 .407 .408 .409 .410 .411 .412 .413 .414 .415 .416 .417 .418 .419 .420 .421 .422 .423 .424 .425 .426 .427 .428 .429 .430 .431 .432 .433 .434 .435 .436 .437 .438 .439 .440 .441 .442 .443 .444 .445 .446 .447 .448 .449 .450 .451 .452 .453 .454 .455 .456 .457 .458 .459 .460 .461 .462 .463 .464 .465 .466 .467 .468 .469 .470 .471 .472 .473 .474 .475 .476 .477 .478 .479 .480 .481 .482 .483 .484 .485 .486 .487 .488 .489 .490 .491 .492 .493 .494 .495 .496 .497 .498 .499 .500 .501 .502 .503 .504 .505 .506 .507 .508 .509 .510 .511 .512 .513 .514 .515 .516 .517 .518 .519 .520 .521 .522 .523 .524 .525 .526 .527 .528 .529 .530 .531 .532 .533 .534 .535 .536 .537 .538 .539 .540 .541 .542 .543 .544 .545 .546 .547 .548 .549 .550 .551 .552 .553 .554 .555 .556 .557 .558 .559 .560 .561 .562 .563 .564 .565 .566 .567 .568 .569 .570 .571 .572 .573 .574 .575 .576 .577 .578 .579 .580 .581 .582 .583 .584 .585 .586 .587 .588 .589 .590 .591 .592 .593 .594 .595 .596 .597 .598 .599 .600 .601 .602 .603 .604 .605 .606 .607 .608 .609 .610 .611 .612 .613 .614 .615 .616 .617 .618 .619 .620 .621 .622 .623 .624 .625 .626 .627 .628 .629 .630 .631 .632 .633 .634 .635 .636 .637 .638 .639 .640 .641 .642 .643 .644 .645 .646 .647 .648 .649 .650 .651 .652 .653 .654 .655 .656 .657 .658 .659 .660 .661 .662 .663 .664 .665 .666 .667 .668 .669 .670 .671 .672 .673 .674 .675 .676 .677 .678 .679 .680 .681 .682 .683 .684 .685 .686 .687 .688 .689 .690 .691 .692 .693 .694 .695 .696 .697 .698 .699 .700 .701 .702 .703 .704 .705 .706 .707 .708 .709 .710 .711 .712 .713 .714 .715 .716 .717 .718 .719 .720 .721 .722 .723 .724 .725 .726 .727 .728 .729 .730 .731 .732 .733 .734 .735 .736 .737 .738 .739 .740 .741 .742 .743 .744 .745 .746 .747 .748 .749 .750 .751 .752 .753 .754 .755 .756 .757 .758 .759 .760 .761 .762 .763 .764 .765 .766 .767 .768 .769 .770 .771 .772 .773 .774 .775 .776 .777 .778 .779 .780 .781 .782 .783 .784 .785 .786 .787 .788 .789 .790 .791 .792 .793 .794 .795 .796 .797 .798 .799 .800 .801 .802 .803 .804 .805 .806 .807 .808 .809 .810 .811 .812 .813 .814 .815 .816 .817 .818 .819 .820 .821 .822 .823 .824 .825 .826 .827 .828 .829 .830 .831 .832 .833 .834 .835 .836 .837 .838 .839 .840 .841 .842 .843 .844 .845 .846 .847 .848 .849 .850 .851 .852 .853 .854 .855 .856 .857 .858 .859 .860 .861 .862 .863 .864 .865 .866 .867 .868 .869 .870 .871 .872 .873 .874 .875 .876 .877 .878 .879 .880 .881 .882 .883 .884 .885 .886 .887 .888 .889 .890 .891 .892 .893 .894 .895 .896 .897 .898 .899 .900 .901 .902 .903 .904 .905 .906 .907 .908 .909 .910 .911 .912 .913 .914 .915 .916 .917 .918 .919 .920 .921 .922 .923 .924 .925 .926 .927 .928 .929 .930 .931 .932 .933 .934 .935 .936 .937 .938 .939 .940 .			

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Crosstube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐
--	--	---

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
--	--	---	--

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

647.9317

R.250
4 PL

.625

.090

Ø.196
6 PL

0

.500

2.000

3.500

6.500

8.000

9.500

10.000

ORIGINAL DATE
DESIGNED BY
DRAWN BY
CHECKED
DATE
BY
APPROVED
DATE
BY
CONTRACT NO.

APICAL INDUSTRIES
2608 TEMPLE HEIGHTS DR.
OCEANSIDE, CA. 92086-3312 (760) 724-5300

DEFLECTORS

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
FRACTIONS DECIMALS
ANGLES

REV	DATE CODE	DATE	REV
8	07M26	647.3900	C
SCALE: NONE			SHEET 12 OF 12

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Crosstube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐
--	--	---

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
--	--	---	--

Jean-Luc Menard

From: Pablo Bravo
Sent: November-26-14 2:49 PM
To: Jean-Luc Menard
Cc: David Shepherd; Pete Olep
Subject: Re: Rivet length change

Hi JL,

The rivet length change is acceptable.

Regarding having engineers in Hawkesbury approve minor changes, I'll have to bring it up with Pete and David. I don't have a technical objection as I'm sure they are completely capable of making these assessments, but it gets a little tricky as far as who is the design approval holder. Let me get back to you on that one.

David, this might be similar to the Aux tank drawings. Let's see if we can figure out a system that allows us to do this.

Thanks,

Pablo

On Nov 26, 2014, at 1:01 PM, Jean-Luc Menard <jmenard@dartaero.com> wrote:

Hi Pablo,

I think you had look at one similar not too long ago. 647.3902, the rivet has to change from -12 to a -14.

Is this acceptable?

Also, Would it be possible for the eng's here in Hawkesbury to approve rivet length changes?

Let me know,
JL

Jean-Luc Ménard
Production Engineering Supervisor

DART AEROSPACE
T 1 613 632-5200 > 227
F 1 613 632-5246
1 800 556- 4166
www.dartaerospace.com

<image001.png>